

## RESEARCH AND DEVELOPMENT, NEUCHATEL - QUARTERLY REPORT

DIVISION : RESEARCH  
SUBJECT TITLE : PESTICIDES  
PERIOD COVERED : April - June 1990  
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KEYWORDS : culture, moon, saturn, methoprene, tla,  
coresta, maleic-hydrazide, mh-30,  
dithiocarbamate, dtc, flumetralin, thiram

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### OBJECTIVES

To provide an analytical service for the analysis of pesticides in tobacco and cigarette filler.

To develop analytical methods for new pesticides and to improve existing methods.

### RESULTS

#### Project CULTURE

- Methods  
A method for the determination of 2,4-D, 2,4,5-T and dicamba in tobacco was written up [1]. The revised methods for the determination of various pesticides in tobacco (GPC-GC) and for the determination of methoprene in tobacco were rewritten [2,3].
- Flumetralin  
The final manuscript for the determination of flumetralin in tobacco was prepared and sent out for publication.
- Methoprene  
Five tobacco dust samples from trials with Dianex collected at FTR factory were analysed for methoprene. Residues ranged from 1.7 to 22.1 ppm [4].  
Three tobacco samples from Coresta joint-experiment 29 were analysed for methoprene. Two samples contained 1.9 and 5.5 ppm respectively. No methoprene was detected in the third sample (i.e. < 0.5 ppm).
- Maleic hydrazide  
At the request of Leaf Department EEC, 8 US-FC crop 89 and 2 US-BU crop 89 samples were analysed for MH-30 [5,6]. All

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US-FC samples had MH-30 residues above 80 ppm.

Eighteen PMH, 38 FTR, 13 PM-EEC and 2 PMB-TLA samples were analysed for MH-30 [7-11]. Thirty eight samples had MH-30 residues above 80 ppm.

- Dithiocarbamates  
OR-tobacco samples from various origins (GR, TU, IT, YU, TH), as well as PM and competitor brands from IT, were analysed for dithiocarbamates. Residues in the OR samples ranged from not detectable (< 0.7 ppm) to 50 ppm. In the PM brands, residues were found between n.d. and 6 ppm and in the competitor brands, between n.d. and 24 ppm [12-14].

### Project MOON

- PMG-TLA samples and PMG-brands  
As an analytical service for PMG, 103 TLS samples and 14 PMG-brands were analysed for pesticide residues [15-17]. Eleven TLA samples had MH-30 residues exceeding 80 ppm, and 1 sample (BU-IN) had a DDT residue above the 10 ppm max. permissible value. EDB residues were found in 12 samples. In the PMG-brands, no pesticide residues above the German tolerances were found. Dithiocarbamate residues ranged between 0.4 and 6.6 ppm and those for MH-30 between 5.3 and 54.4 ppm. Compared to the last quarterly check, lower MH-30 residues were found in PMU-Berlin and CEG-Berlin (54.4 ppm and 27.7 ppm respectively against 78.9 ppm and 47.4 ppm respectively).

### Project SATURN

At the request of PM-AS, 3 Bright leaf samples were analysed for pesticides. Two samples had MH-30 residues above 80 ppm [18].

### Method development

- Thiram  
In the context of problems with dithiocarbamate residues on OR tobacco, a method for the determination of thiram (bis dimethylthiocarbamoyl-disulfide) is under development. The principle of the method involves the extraction of thiram from tobacco with  $\text{CHCl}_3$  followed by a subsequent HPLC separation with postcolumn derivatization and UV detection.

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